

WHAT IS CLAIMED IS:-

1. A cathode ray tube comprising:

a vacuum enclosure including a panel having a substantially rectangular screen on which a horizontal direction and a vertical direction are defined;

a substantially funnel-shaped portion in which a tube axis is defined, one end of said funnel-shaped portion in a direction of said tube axis being connected to said panel, a substantially cylindrical neck connected to an opposite end of said funnel-shaped portion; and

an electron gun mounted in said neck;

wherein said funnel-shaped portion includes a yoke-mounting portion adjacent to said neck, said yoke-mounting portion having an outer surface for mounting a deflection yoke that deflects an electron beam emitted by said electron gun in directions of said horizontal axis and said vertical axis, and

wherein a sectional shape of said outer surface of said yoke-mounting portion, cut by a plane perpendicular to said tube axis, varies from a substantially circular shape to a substantially barrel shape having a maximum dimension at least in a direction of said horizontal axis or said vertical axis, as the position shifts from said neck side to said panel side of said yoke-mounting portion.

2. The cathode ray tube according to claim 1, wherein a sectional shape of an inner surface of said yoke-mounting portion, cut by a plane perpendicular to said tube axis, varies from a substantially circular shape to a substantially barrel shape having a maximum dimension in the same direction as the direction in which said outer surface has its maximum dimension.

3. The cathode ray tube according to claim 1, wherein said substantially barrel shape includes two substantially

straight sides extending in parallel with each other along said horizontal axis or said vertical axis, and two arc-shaped sides in the form of circular arcs having the center of curvature aligned on said tube axis.

4. The cathode ray tube according to claim 2, wherein each of said outer surface and said inner surface has a sectional shape having maximum dimensions Y_h and Y_v respectively along said horizontal axis and said vertical axis, in a plane perpendicular to said tube axis at an arbitrary position other than the proximity of said neck, and

wherein said maximum dimensions Y_h and Y_v satisfying the following relationships (1) and (2):

$$0.6 \times (N/M) \quad (Y_v^2 - Y_h^2)^{1/2} / Y_h \quad 1.2 \times (N/M) \quad \dots (1)$$

when Y_h is smaller than Y_v

$$1.2 \times (N/M) \quad Y_v / (Y_h^2 - Y_v^2)^{1/2} \quad 1.8 \times (N/M) \quad \dots (2)$$

when Y_h is greater than Y_v

where M and N respectively represent dimensions of said screen along said horizontal axis and said vertical axis.